Reply to Office action of February 27, 2004

Amendments to the Specification:

On page 1, please delete the title -- ANTIMONY SILICATE SORBENT FOR REMOVAL OF METAL IONS—and replace it with the following METHOD OF EXTRACTING METAL IONS FROM AN AQUEOUS SOLUTION UTILIZING AN ANTIMONY SILICATE SORBENT

Attached herewith is substitute page 2, 2a and 2b inserting new paragraph numbers [0003a] through [0003t].

Substitute paragraph [0020] with the following paragraph:

[0020] The material is also more efficient for Sr uptake than commercial materials in the presence of other cations such as Na⁺ for example, see Figures 7a and 7b 7.

Substitute paragraph [0025] with the following paragraph:

[0025] Figures 8a and 8b 8 shows how the distribution coefficient, Kd, value for 85Sr varies according to the drying temperature used.

Substitute paragraph [0054] with the following paragraph:

[0055] Figures 6a and 6b 6 shows how the K_d values are affected by the presence of Mg^{2+} ions.

Substitute paragraph [0056] with the following paragraph:

[0056] Figures 7a and 7b 7 shows how the K_d values are affected by the presence of Na^+ ions.

Substitute paragraph [0058] with the following paragraph:

[0058] Different antimony silicate samples were then prepared by heating the product to various temperatures. Samples were prepared by heating to 100°C, 200°C, 300°C, 450°C, 600°C and 800°C. Figures 8a and 8b and 9a and 9b shows how K_d for

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⁸⁵Sr and ⁵⁷Co varies with the synthesis temperature. A slight maximum is seen at about 300°C. Separate results are given for the case when acid is added in the synthesis before the silicate (see below).

Substitute paragraph [0059] with the following paragraph:

[0059] (4) Effect of Adding Acid before Silicate

Samples were prepared as above with various synthesis temperatures except that some HNO₃ was added before TEOS to hasten the solubility of the KSb(OH)₆. The comparison of the Kd values with and without prior addition of HNO₃ are shown in Figures 8<u>a and 8b</u> and 9<u>a and 9b</u>. The material prepared where the acid was added before the silicate was slightly better at removing ⁸⁵Sr and ⁵⁷Co.

Substitute paragraph [0060] with the following paragraph:

[0060] (5) Effect of Sb:Si ratio

Synthese were also carried out in which the Sb:Si ratio was varied. The Sb:Si ratios used were 1:1, 2:1, 3:1, 1:2 and 1:3. Also a synthesis was carried out without any silicate to produce antimonic acid. The[[y]] synthesis temperatures were about 100°C and 300°C. The K_d values for ⁸⁵Sr in 0.1M HNO₃ are shown in Figure 10a. The K_D values for ⁵⁷Co in 0.1M HNO₃ are shown in Figure 10b.